REMARKS

Claims 1-12 are pending in this application. Claim 2 is cancelled. Claims 1-12 are rejected. Claims 1, 4 and 5 are amended hereby.

Responsive to the rejection of claims 1-12 under 35 U.S.C. § 112, second paragraph, Applicant has amended claim 1 keeping in mind the Examiner's comments, Applicant has canceled claim 2, and Applicant traverses the rejection of claims 5 and 8. Applicant respectfully submits that claim 5 further structurally limits the device of claim 1 in that claim 5 recites an additional structural element of "at least one thin walled component sealing said at least one opposite side". Applicant respectfully submits that claim 8 further structurally limits the device of claim 1 in that claim 8 recites an additional limitation to the interconnection of the thin walled component to the inlet side nozzle lip and/or the outlet side nozzle lip in that claim 8 requires that this be done to "a level of high precision by one of a laser welding process, a brazing process and a gluing process". Applicant respectfully submits that claims 1-12 are in allowable form.

Responsive to the rejection of claims 1 and 11 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,767,346 (Mihalik), Applicant has amended claim 1 and submits that claims 1 and 11 are now in condition for allowance.

Mihalik '346 discloses extrusion die 23 (Fig. 3) including die body 25 having along the length thereof central cavity 27, into which a molten thermoplastic material is delivered under pressure, an exposed recess 29, and slot 31 extending between such cavity and recess (column 3, line 64 through column 4, line 4). Die lips or blades 33 and 35 are disposed within recess 29 and are fixed to die body 25 (column 4, lines 5-6). Extending along an outside surface of at least one of die lips 33 and 35 is groove 45 for retaining therein one or more heat-exchangers 47 (column 4, lines 17-20).

In contrast, claim 1, as amended, recites in part: "at least one thermal control channel through which a fluid flows, said at least one thermal control channel both in contact with said fluid and defined at least in part by at least one of said inlet side nozzle lip and said outlet side nozzle lip.". (Emphasis added.) Applicants submit that such an invention is neither taught, disclosed nor suggested by Mihalik '346, or any of the other cited references, alone or in combination, and has distinct advantages thereover.

Mihalik '346 discloses an extrusion die where, extending along an outside surface of at least one of the die lips 33 and 35, is a groove for retaining therein one or more heat-exchangers 47. A fluid flows through heat-exchanger 47, and is not in contact with or flow through the groove in die lips 33 and 35. Therefore, Mihalik '346 fail to disclose or suggest at least one thermal control channel both in contact with the fluid and defined at least in part by at least one of the inlet side nozzle lip and the outlet side nozzle lip, as recited in claim 1.

An advantage of the present invention is adherence of particles in the dispensing area of the applicator nozzle can be prevented, or at least minimized. Another advantage of the present invention is thermal deflection of applicator device components can be prevented, or at least minimized. Yet another advantage is that the present invention can be easily retrofitted to existing installations.

For all of the foregoing reasons, Applicant submits that claim 1, and claim 11 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

Responsive to the rejection of claims 1-3 and 10-12 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,117,237 (Yapel et al.), Applicant has amended claim 1 and submits that claims 1-3 and 10-12 are now in condition for allowance.

Yapel et al. '237 disclose a die coating apparatus (Fig. 1) including a substrate, such as web 10, which is transported around a backup roller 12 or other support through a coating station 14 (column 3, lines 33-37). A coating die 16 is located adjacent backup roller 12 to apply coating fluid 18 onto web 10 as the web passes the die (column 3, lines 37-38). The enclosure system includes a die enclosure 24 and a device which supplies solvent-saturated gas to continuously purge the enclosure to maintain solvent saturation in the vicinity of the bead, to maintain a constant positive flow out of the enclosure, and to ensure that the atmosphere in the vicinity of the coater bead is always saturated with solvent (column 3, lines 43-45 and column 2, lines 12-21). No drying of the coating fluid is possible and no streaks can form due to coating fluid drying on the die lip because the gas supplied to the die enclosure is already saturated with the solvent (column 2, lines 23-26). Gas 28 is saturated with solvent gas 29 and the solvent-saturated gas 30 is continuously pumped into enclosure 24 at a regulated pressure (column 3, lines 61-66). Saturation can be accomplished by any appropriate device such as a packed column, a wick, a jacketed vessel, or a heat exchanger combination (column 4, lines 21-24). The embodiment of Fig. 2 uses three heat exchangers 46, 48, 50 to vaporize solvent 29 and control the temperature of saturated gas 30 (column 4, lines 53-57). In the embodiment of Fig. 3, upper enclosure 62 is bolted to die 16 and extends to backup roller 12 (column 6, lines 50-51). Upper enclosure 62 forms a pressure distribution manifold 70 which is in fluid connection which an injection port 72 which feeds solvent-laden gas 30 through manifold 70 and out of a continuous feed slot 74 into the upper enclosed area (column 6, lines 57-61). Lower enclosure 64 is bolted to die support 60 and extends to backup roller 12 (column 6, lines 66-67).

In contrast, claim 1, as amended, recites in part: "at least one thermal control channel through which a fluid flows, said at least one thermal control channel both in contact with said fluid and defined at least in part by at least one of said inlet side nozzle lip and said outlet side nozzle lip.". (Emphasis added.) Applicants submit that such an invention is neither taught, disclosed nor suggested by Yapel et al. '237, or any of the other cited references, alone or in combination, and has distinct advantages thereover.

Yapel et al. '237 disclose a die coating apparatus where an upper enclosure forms a pressure distribution manifold which feeds solvent-laden gas into an upper enclosed area to keep a coating from drying on a coating die, and where the upper enclosure is bolted to the die. However, Yapel et al. '237 fail to disclose or suggest at least one thermal control channel both in contact with the fluid and defined at least in part by at least one of the inlet side nozzle lip and the outlet side nozzle lip. The inlet side nozzle lip and the outlet side nozzle lip of the present invention are the sides in contact with the coating medium whereas Yapel et al. '237 bolts an enclosure including a manifold to the die.

An advantage of the present invention is adherence of particles in the dispensing area of the applicator nozzle can be prevented, or at least minimized. Another advantage of the present invention is thermal deflection of applicator device components can be prevented, or at least minimized. Yet another advantage is that the present invention can be easily retrofitted to existing installations.

For all of the foregoing reasons, Applicant submits that claim 1, and claim 2, 3 and 10-12 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

Responsive to the rejection of claim 10 under 35 U.S.C. § 103(a) as being obvious by U.S. Patent No. 3,767,346 (Mihalik), Applicant has amended claim 1 and submits that claim 10 is now in condition for allowance. Applicant respectfully submits that claim 10 depends from claim 1. As described above, claim 1 is distinguished from the prior art including Mihalik '346; therefore any dependent claims, including claim 10, are also distinguished from the prior art. For all of the foregoing reasons, Applicant submits that claim 10 is now in condition for allowance, which is hereby respectfully requested.

At page 5 of the Office Action, the Examiner has indicated that claims 4-9 are allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and obviating any informalities, for which courtesy the Examiner is thanked. Claim 4 has been amended to include the limitations of claims 1 and 3, and obviating any informalities. Claim 5 has been amended to include the limitations of claims 1 and 3, and obviating any informalities. Claims 6-9 depend directly or indirectly from claim 5. For all of the foregoing reasons, Applicant submits that claims 4-9 are now in condition for allowance, which is hereby respectfully requested.

For the foregoing reasons, Applicant submit that the pending claims are definite and do particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Moreover, Applicant submits that no combination of the cited references teaches, discloses or suggests the subject matter of the amended claims. The pending claims are therefore in condition for allowance, and Applicant respectfully requests withdrawal of all rejections and allowance of the claims.

In the event Applicant has overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicant hereby conditionally petitions therefor and authorizes that any charges be made to Deposit Account No. 20-0095, TAYLOR & AUST, P.C.

Should any question concerning any of the foregoing arise, the Examiner is invited to telephone the undersigned at (260) 897-3400.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on: August 4, 2004.

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Date